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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/900,886

07/10/2001

Gholamabbas Hemari

ML/10857.321

5875

7590

09/23/2004

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EXAMINER

DESIRE, GREGORY M

ART UNIT

PAPER NUMBER

2625

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/900,886

Applicant(s)

HEMIARI ET AL.

Examiner

Gregory M. Desire

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-11, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 12 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6-11 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruo 6,259,809 in view of Bergman et al (6,529,916).

Regarding claims 1 and 9 Maruo and Bergman discloses,

Providing a digital image (note fig. 2 input digital image);

Initializing a parameter domain (note fig. 2, 502 examiner interprets first binarization processor as initializing parameter domain);

Successively applying the Radon transform on each position in the parameter domain (note fig. 2, 503 Hough transformation unit is a form of Radon transform);

Finding the coordinates of the nearest pixel in the digital image (note fig. 2 block 505, label processor);

Determining the numerical value of the found pixel (note fig. 2 block 506, representative point calculation unit, determines calculation of label processor); and

Populating the provided database in accordance with the determined numerical value of the found pixels (note fig. 1 block 300 and col. 10 lines 35-37, examiner

interprets the storing of numerical data as populating the provided database in accordance to numerical value);; and

Generating an output image by restoring the lines detected in the analyzing step (note fig. 2 block 507, examiner interprets linear component estimation unit means for generating linear output).

Maruo provides a database (note memory 300). However, Maruo is silent wherein the database is multi-layered. Bergman discloses a multi-layered database (note col. 7 lines 42-46) providing fast and accurate responding to queries in the database (not col. 2 lines 50-65). Therefore it would have been obvious to one having ordinary skills in the art to at the time the invention was made to include multi-layers in the database of Maruo. Faster and accurate response to database queries would have been a desirable feature in data storage due to its indexing function and Bergman recognized that faster and accurate response would be expected when multi-layers of Bergman is included in Maruo.

Regarding claims 2, 3 and 10-11 Maruo and Bergman discloses,

Wherein the multi-layer database providing step includes providing a multi-layer database having at least three layers; a first layer is used to contain the coordinates of the zero value pixels; a second layer use to contain the coordinate of the non-zero and a third layer used to contain the values of the non-zero value pixels (note Bergman col. 7 lines 42-60, lines cite multi-layers and the use of zero and non-zero pixel values).

Regarding claims 6 Maruo and Bergman discloses,

Wherein said data analyzing step includes the sub step of finding the endpoints of each linear feature (note Maruo col. 13 lines 21-30).

Regarding claims 7 and 14 Maruo and Bergman discloses,

Storing the endpoints found in a database, which is used in the output image, generated step (note Maruo fig. 2 507 and 200)

Regarding claim 8 Maruo and Bergman discloses,

Providing minimum and maximum length of the lines to be detected (note Maruo, col. 19 lines 35-45 and 64-67)

Regarding claim 15 Maruo and Bergman discloses,

An input device connected to said input of said controller to supply the digital image to the controller (note Maruo, fig. 1 block 500 and the processor includes a controller).

***Allowable Subject Matter***

3. Claims 4-5 and 12-13 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 4 and 12, prior art fails to disclose providing at least five layers. Claims 5 and 13 depend on claims 4 and 12 respectively, therefore also objected.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory M. Desire whose telephone number is (703) 308-9586. The examiner can normally be reached on M-F (8:30-6:00) Second Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gregory M. Desire  
Examiner  
Art Unit 2625



G.D.  
September 20, 2004